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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,582	07/14/2004	Troy Clutton	010100-120	9318

21836 7590 12/04/2006

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EXAMINER

VASUDEVA, AJAY

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/501,582	Applicant(s) CLUTTON ET AL.	
	Examiner Ajay Vasudeva	Art Unit 3617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 and 32-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30,32-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 44 and 45 are objected to because of the following informalities:
 - The limitation identified as "H" (for predetermined height) lacks proper antecedent basis in the claim.Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

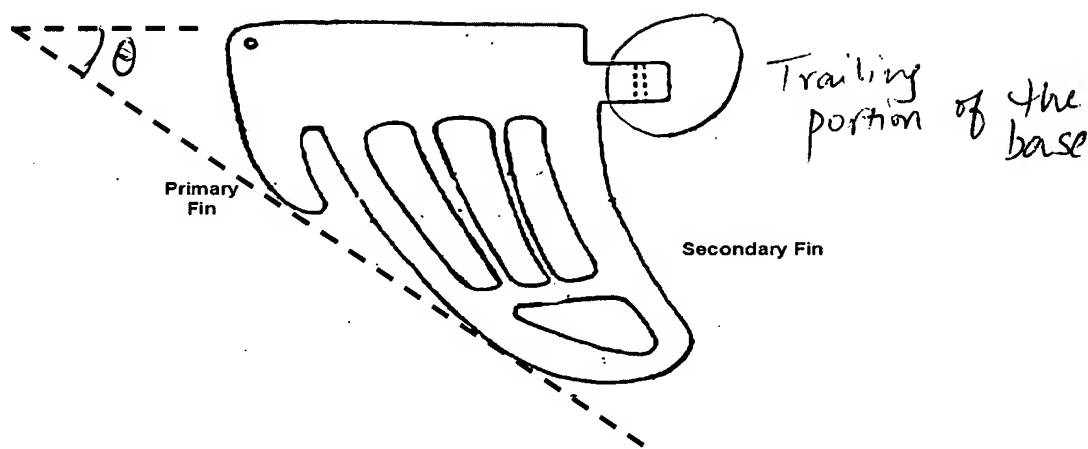
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 17-30, 32-34 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by AU 9170912 A (WEBERLING).

Re independent claims 17 and 18, Weberling shows a fin assembly, having a primary fin [16] and a secondary fin [12] extending from a base [15], each fin having leading and trailing edges. The base and the fins are integrally formed, wherein the base extends longitudinally between the leading primary edge and the trailing secondary edge. The leading and trailing edges of the fins are aligned. The trailing primary edge and the leading secondary edge are joined by an intermediate arcuate edge defined by the base. The fins include respective pairs of opposite faces that extend between the leading and trailing edges.

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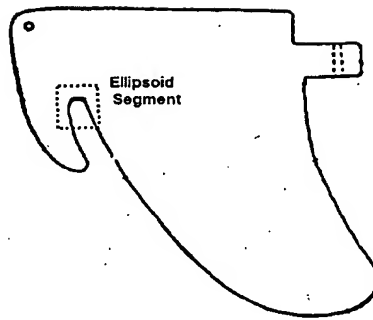
As seen above, the primary fin extends such that the secondary fin is positioned between a portion of the primary fin and a trailing portion of the base. The rake angle is less than 90 degrees.

Re claim 22, if the base is oriented in a substantially vertical direction, the secondary fin would be disposed under the leading and trailing edges of the primary fin. (Note: Including the limitation "when the base is substantially horizontally oriented" in the claim will overcome this rejection).

Re claim 24, the trailing edge (of the primary fin) is feathered – or curved – in an area intermediate the secondary fin and the leading edge (of the primary fin).

Re claim 26, the arcuate edge can be arbitrarily assumed to span a segment that is longer vertically than horizontally, thereby defining an ellipsoid shape. In such case, the arcuate edge would have varying radius.

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-30 and 32-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over AU 8447182 A (FORD) in view of AU 9170912 A (WEBERLING).

Ford shows a tandem fin arrangement (see fig. 5 and fig. 6; and page 6, lines 10-24) having a larger fin [14] and a smaller fin [13], each fin having respective leading and trailing edges. The leading and trailing edges of the fins are aligned. Each fin includes a pair of opposite faces that extend between the leading and trailing edges. The fins are disclosed as being accommodated in a single fin box of a surfboard (see claim 4).

However, Ford does not describe any particular mechanism for constructing, or the attachment mechanism between, the tandem fins. Specifically, Ford is silent on the attachment mechanism of the tandem fins that extend from a single fin box of a surfboard.

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Weberling shows tandem fin arrangement, wherein primary and secondary fins are integrally formed with a base (see fig. 1 and claim 6). The trailing primary edge and the leading secondary edge are joined by an intermediate arcuate edge defined by the base. The fins are made of aluminum, and therefore, are inherently capable of certain degree of deformation if exposed to extreme hydrodynamic forces during use.

It would have been obvious for an artisan at the time of the invention to integrally form the primary and secondary fins of Ford with a base, as taught by Weberling. Having such an arrangement would have allowed one to easily construct a tandem fin assembly, which would have been easy and quick to connect or disconnect from a surfboard.

Re claim 14, a "feathered portion" is the cut-out portion that is bounded by the trailing edge of the primary fin, the leading edge of the secondary fin and the base. Additionally, the rake is less than 90 degrees.

Re claim 16, forming the fins of aluminum, as taught by Weberling, would have inherently made the fins deformable.

Re claim 17, because the primary and secondary fins extend in the same plane (see fig. 5), a tangent to an edge of the secondary fin would also be parallel to the plane.

Re claim 22, at least a portion of the secondary fin is directly disposed under the leading and trailing edges of the primary fin (see fig. 6).

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Re claim 24, the trailing edge of the primary fin is inwardly curved toward the leading edge, ^{and} is therefore considered to be feathered in an area intermediate of the secondary fin and the leading edge.

Re claim 32 and 33, the base, as taught by Weberling, shows at least one protruding mounting formation.

Re claim 35, the cut-out portion between the secondary and primary fins is considered to be the feathered portion, which appears to be greater than 0.2X of the combined total sectional area defined by the base, the primary fin and the secondary fin.

Re claims 38-41, the steps recited in the "*method of manufacturing*" claims are inherent in the construction of the fin. The "*method of use*" limitation "**such that in use the smaller fin trails the larger fin**" is not a manufacturing step, and therefore has not been accorded any patentable weight.

At least half of the combined total sectional area defined by the base, the primary fin and the secondary fin appears to be within a third of the height of the primary fin.

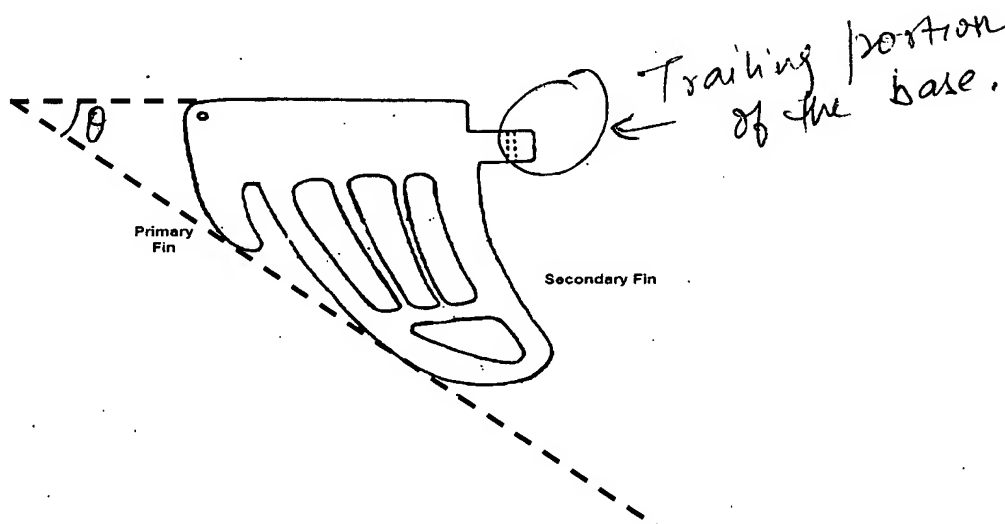
Response to Arguments

6. All of the Applicant's arguments with respect to claims 1-30 and 32-46 have been considered but are moot in view of the new ground(s) of 35 U.S.C. 103(a) obviousness rejection, based on AU 8447182 A (Ford) in view of AU 9170912 A (Weberling).

7. Regarding the 35 U.S.C. 102(b) rejection based on AU '912 (Weberling), Applicant's arguments filed 9/06/2006 have been fully considered but they are not persuasive.

Arguments: Applicant has argued that Weberling does not show a rake of less than about 90 degrees.

Response: As seen below, the primary fin extends such that the secondary fin is positioned between a portion of the primary fin and a trailing portion of the base. The rake angle is clearly less than 90 degrees.



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Conclusion


8. The prior art made of record in the attached PTO Form 892, but not yet relied upon, is considered pertinent to applicant's disclosure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ajay Vasudeva whose telephone number is (571) 272-6689. The examiner can normally be reached on Monday-Friday 12:00 -- 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S. Joe Morano can be reached on (571) 272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ajay Vasudeva
Examiner
Art Unit 3617


AJAY VASUDEVA
PRIMARY EXAMINER
TECHNOLOGY CENTER 3600
11/28/06